

**FIG. 1**

KpnI 81  
GGTACCATAAATTACACATCTGCTTTGAAAAAATGATTCAAGCTAGGATTACATTAGGTAGACTCATATTAAATAAT

AAAATGTTGCAATTACACATCGTACGGTGTGTTGTAATTCTAAATGTTGTTAGTAAAGTATTATGTTGATAATAAAATATCGATACAA 191

RBS -35 -10 301

ATTAAATTGCTATAATGCAATTAGTTAGGTATAATTACAGAGATTAAATCTAAAGGTATAATAGTTAAATATCATTAAACAGAGATTAA

S → A → 411

ATGAATATGAGAAAACACGCAATTCCGAAAAAATCGATTGGCGTGCTTCAGTGGTAGGTACGTTAACGGTTTGGACTACTCAGCAGTAAAGAGC 37

M N M K K E K H A I R K S I G V A S V L V G T L I G F G L L S S K E A

AGATGCCAAGTGAATAGTGTACGCCATCTGATAGCCAAAGTAACGAAAGCAACAGTAAGTAACTGACTAACAGCACACAAACAGTGA 521

D A S E N S V T Q S D S A S N E S K S N D S S S V S A A P K T D D T N V S

GTCGACTAAACATCGTAAACACTAATAATGGCGAACGGACTGGCCAAAATCCAGCACACAGGAAACAGCACACAATCATCATCAAACAAACTACGGAAAGAA 631

D T K T S S N T N N G E T S V A O N P A Q Q E T T Q S S T N A T T E E 110

T P V T G E A T T T T N Q A N T P A T T Q S S N T N A E N V S T Q T S N 141

ACGGCGGTAACTGGTGAAGCTACTACGACAACGAATCAAGCTAAATCACCGGAAACAACCTCAATCAAGGAATACAAATGGGGAGGAATTAGTGAATCAAACAGTAA 147

T GAAACGACTTTAACTAACTAAACAGTATCATCTGTAATTCAACCTCAAAATTCTACAAATGGGGAAAATGTTCAACAAACGCAAGATACTTCAACTGAAGCAACAC 851

E T T F N D T N T V S V N S P Q N S T N A E N V S T Q D T S T E A T P 184

CTTCAAACAAATGAAATCAGCTCCACAGAGTACAGTCAAGTAAAGATGTAGTTAAATCAAGCGGTAAATACAAAGTGCCTAGAAATGAGGCAATTAGTTTCGGCCA 961

S N N E S A P Q S T D A S N K D V V N G A V N T S A P R M R A F S L A A 220

PSTI

GTAGCTGGCAGATGGCACGGCAGCTGGCACAGATAATTACGAATCAGTTGACTCTGGTACGACTGTGATTCGCCACCAAGCAGGTATGT 1071

V A A D A P A A G T D I T N Q L T N V T V G I D S C T T V Y P H Q A G Y V 257

**FIG. 2A-1**

CAAACTGAATTATGGTTTTCAGTGCCTAATTCTGCTGTAAAGGTGACACATTCAAAATAACTGTACCTAAAGAATTAAACTTAAATGGTGTAACTTCAACTGCTAAAG 1181  
 K L N Y G F S V P N S A V K G D T F K I T V P K E L N L N G V T S T A K V 294  
  
 TGCCACCAATTATGGCTGGAGATCAAGTATTGGCAAATGGTGTAAATCGATAGTGTATTATCACAGACTATGTAATACTAAAGATGATGCTAAA 1291  
 P P I W M A G D Q V L A N G V I D S D G N V I Y T F T D Y V N T K D D V K 330  
  
 GCAACTTGTACCATGCCGCTTATATGACCCTGAAATGTTAAAGACAGGTAATGTGACATGGCTACTGGCATAGGTAGTACAACAGCAAACAAACAGTATTAGT 1401  
 A T L T M P A Y I D P E N V K K . T G N V T L A T G I G S T T A N K T V L V 367  
  
 AGATTATGAAAAATATGGTAAGTTTATAACTTCTTAAAGGTACAATTGACCAATCGATAAAACAAATAAACGTATCGTAGACAATTATGTCATCCAAAGTG 1511  
 D Y E K Y G K F Y N L S I K G T I D Q I D K T N N T Y R Q T I Y V N P S G 404  
  
 GAGATAACGTATTGGCTGGTTAACAGGTAAATTAAACCAATTACGGATAGTAAATAGATCAGCAAATAACAGTATTAAAGGTATAAAGTAGATAAT 1621  
 D N V I A P V L T G N L K P N T D S N A L I D Q Q N T S I K V Y K V D N 440  
  
 GCAGCTGATTATCTGAAAGTTACTTGTGAATTACAGGAAACTTGTGAGGATGTCACCTAATAGTGTGAATAATTACATTCCAAATCCAATCAATAAAAGTAGATTAA 1731  
 A A D L S E S Y F V N P E N F E D V T N S V N I T F P N P N Q Y K V E F N 477  
  
 TAGGCCTGATGATCAAATCAAACACCGTATATAGTAGTTAATGGTCATATTGATCCGAATTAGCAAAGGTGATTAGCTTACGGTTCAACCTTATAGGGTATAACT 1841  
 T P D D Q I T T P Y I V V V H I D P N S K G D L A L R S T L Y G Y N S 514  
  
 CGAATATAATTGGCCTCATGGGACACGAAGTGGCATTATAACGGATCAGGTTCTGGTACGGTATCGATAAAACCAAGTTGTCTGAAACACCTGATGAG 1951  
 N I I W R S M S W D N E V A F N N G S G D G I D K P V V P E Q P D E 550  
  
 CCTGGTGAATTGAACCAATTCCAGGGATTCAGATTCTGGGCAGGATTCAATTAGCATAGGGTACTGATTCTACATC 2061  
 P G E I E P I P E D S D P G S D S N S D S G S D S T S 587

R→

**FIG. 2A-2**

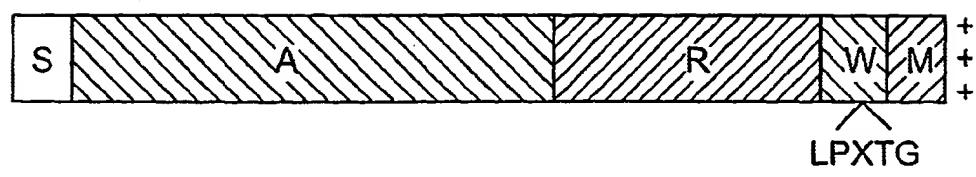
AGATAGGGTTCAAGTTCAGCGAGTATTCAAGAAGTGATTCAAGTCAAGCTCAGGGACTCATTCAGATTCAAGCAAGGCATTCCGACTCTAGCGAGCGATTCCGACTCAG	2171
D S G S D S A S D S D S A S D S D S A S D S D S A S D S D S D S D S D S D S D S D S D S D S D S D S D	624
ACAATGACTGGGATTCAAGTAGGGATTCTGACTCAGACAGTGAATTCAAGATTCAGATTCAAGATAGGGATTCTGACTCAGACAGTGAATTCAAGCTCAGAGTCAGAT	2281
N D S D	660
AGGGATTCAAGATTCAAGATAGGGATTCAAGATTCGGACTCAGACAGGGATTCTGACTCAGACAGCTGGACTCAGACAGCTGGACACAGACAGGATTCAAGATTCCGACAG	2391
S D S D	697
TGATTCCGACTCTAGGCAACTCAGATAGGGATTCAAGATAGGGACTCAGATTCAAGACAGGGATTCAAGATTCAGATTCAAGACAGCTGGATTCAAGATTCCGACAGTG	2501
D S D	734
ACTCAGATTCCGACAGTGACTCTGGATTCAAGATAGGGATTCAAGATAGGGACTCAGATTCAAGACAGTGACTCAGACTCAGACAGTGATTCAAGGGATTCAAGCGAGTGAT	2611
S D S D	770
TGGGATTCAAGATTAGTGATTCCGACTCTGGATTCAAGATAGGGACTCAGATTCAAGCTCGGACTCTGGGATTCAAGATAGGGATTCAAGATAGGGATTCAAG	2721
S D S D	807
AGAATCAGACAGGGATTCAAGAATCAAGACAGGGATTCAAGATTCAAGACAGCTGGGACTCAGATTCAAGATAGGTGACTCGGATTCAAGCAGTGATTCAAGCTCAG	2831
E S D S D S E S D S D S D S D S D S D S D S D S D S D S D S D S D S D S D S D S D S D S G	844
GTAGTGACTCCGATTCAACTCATCAAGTGAATTCCGACTCAGAAAGTGAATTCAACATAATGTAATTGTTAGTTCCGCCCTAATTCACCTAAAATGGT	2941
S D S D S S D S E S D S N S D S E S G S N N V V P P N S P K N G	880
	M

**FIG. 2A-3**

ACTAATGCTCTAAATAAGGCTAAAGATAGTAAAGAACATTACCAAGATAACAGGTCTGAAGATGAAGCAATAACGTCACTAATTGGGATTATTAGCATCAAT  
T N A S N K N E A K D S K E P L P D T G S E D E A N T S L I W G L L A S I 917 3051  
AGGTTCAATTACTTACAGAAGAAAAATAAGATAAGAACATTAAATGATTAAATTAATCATGATTCAATGATTCAATGAAGAACCCACCTTTAAAGGTGCT  
G S L L F R R K E N K D K K > 933 3161  
TCITTTACTTGATTCCAAATATAATTGTTGATAATAATTCAACAGTTAATTCAATGTTATAATTAAAGGTAGATGTTATAATTGGCTTGGCGAAA 3271  
AATAGGGTAGGTAGGTGTTAAATTAGGCAAATAAGGAGAAAATACAGTGAAAAATAATTGCTAGTTTATCATGGGACATTATGTGTATCACAAATTGGG 3381  
AAAGTAATCGTGGAGTGACTGGTTCTGGGGAGAACATCCATAATGTTGAGTCGTGAAACTGACTAAATAAAATAAMCTAGAACAGTAGAAAGTATAAG 3491  
HindIII  
AAAAGCTT 3499

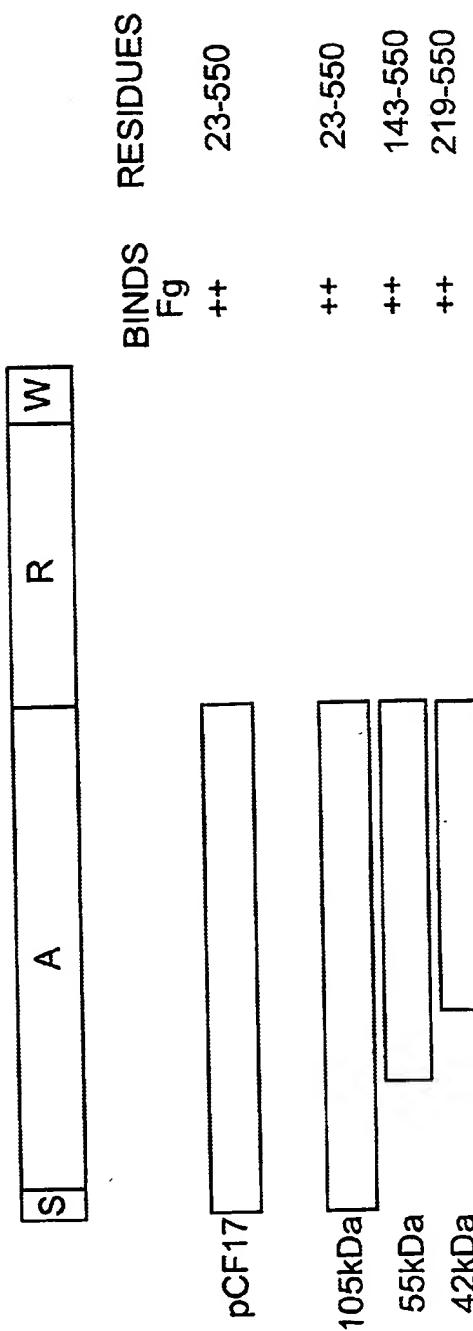
**FIG. 2A-4**

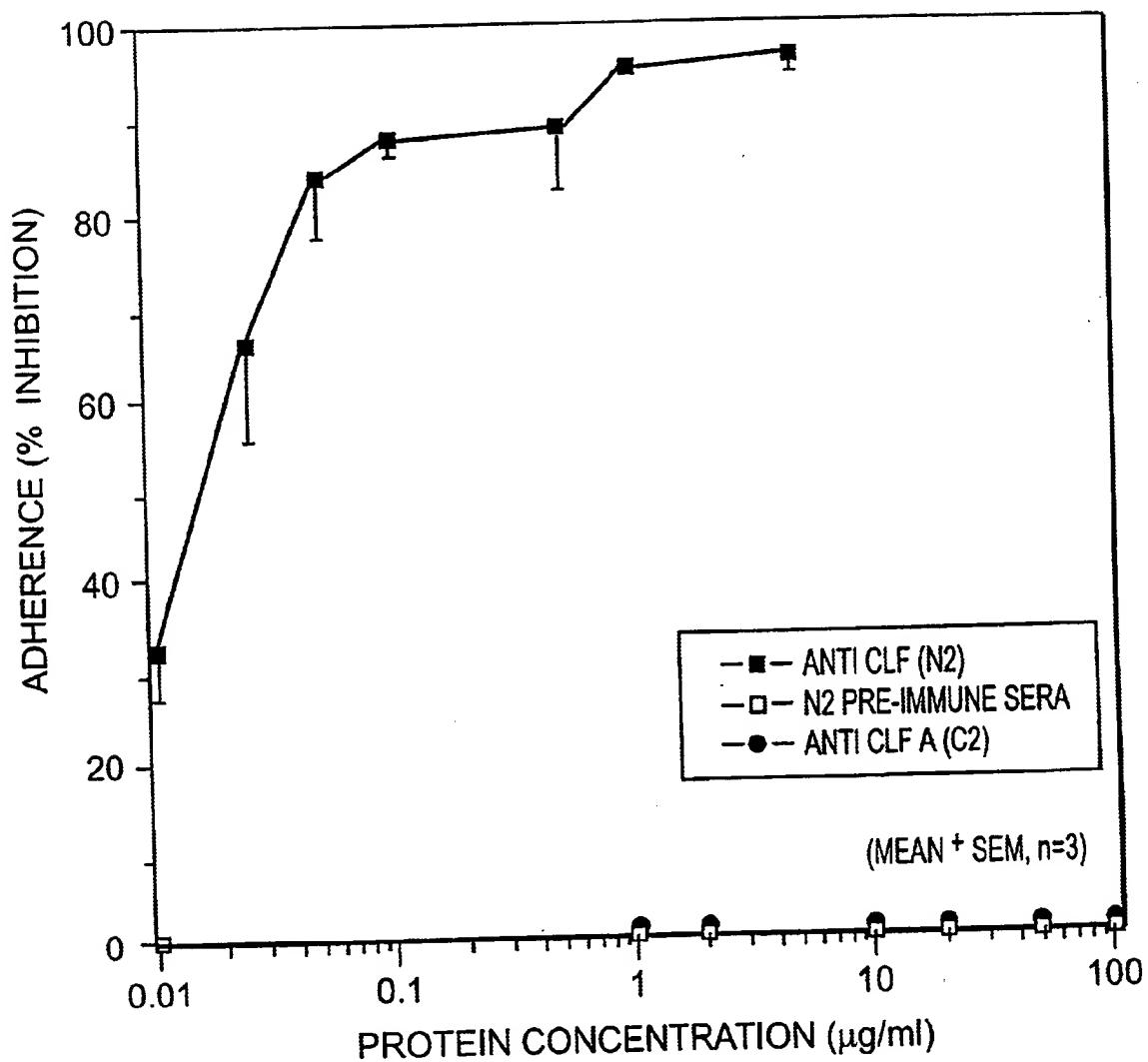
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**FIG. 2B**

# *FIG. 3*





**FIG. 4**

S	A	R	W
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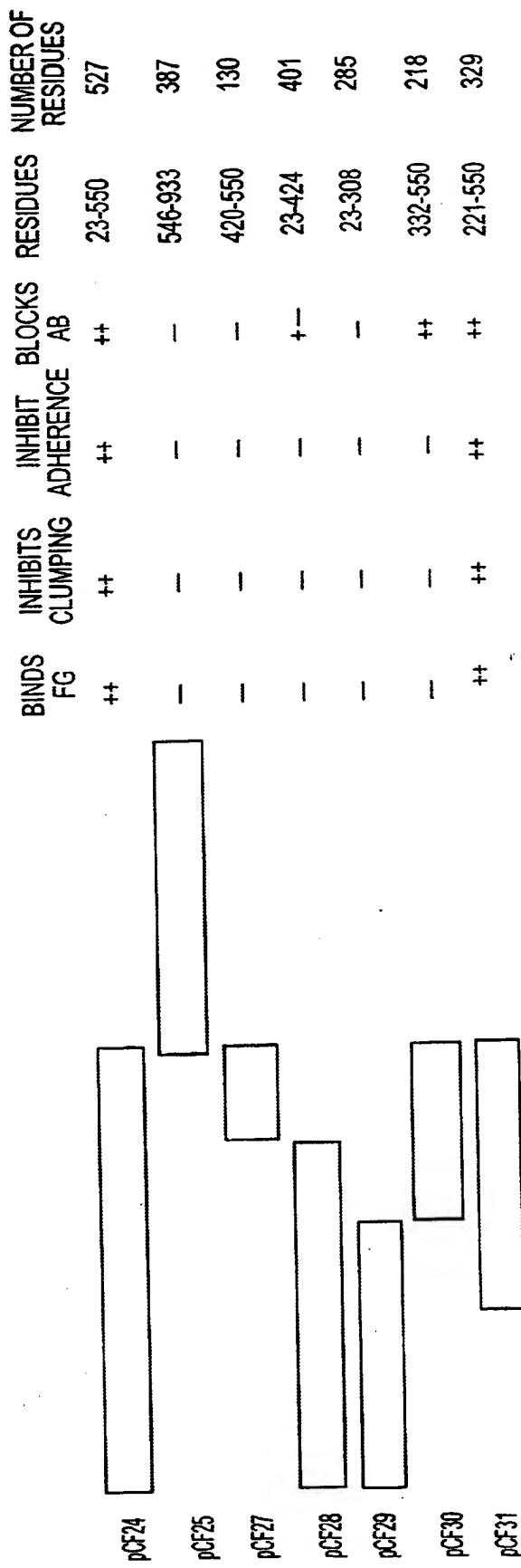
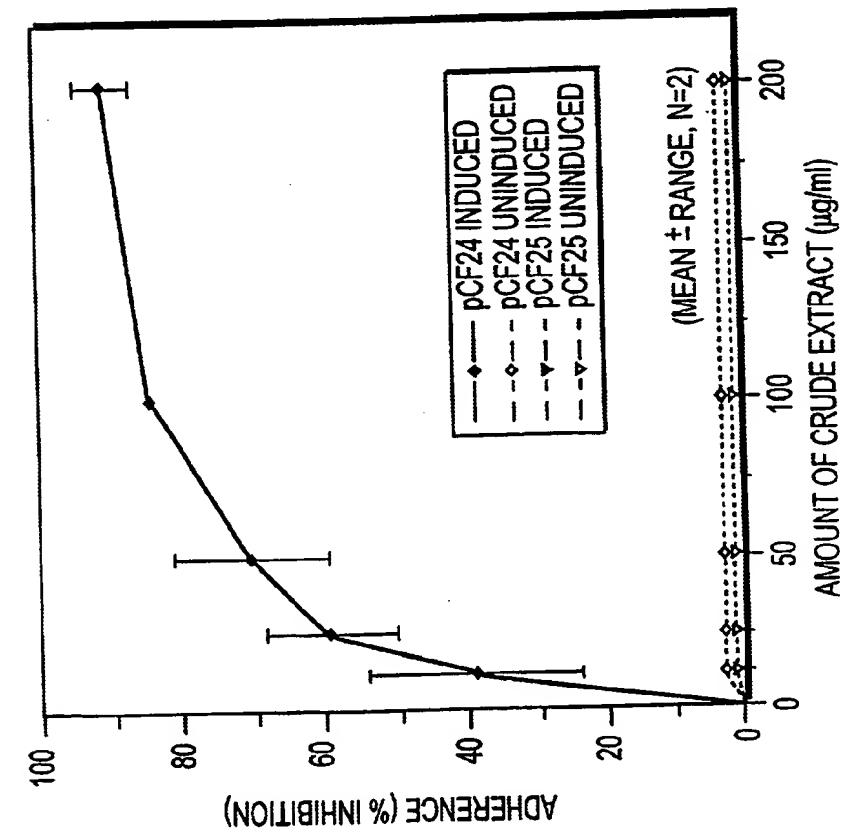
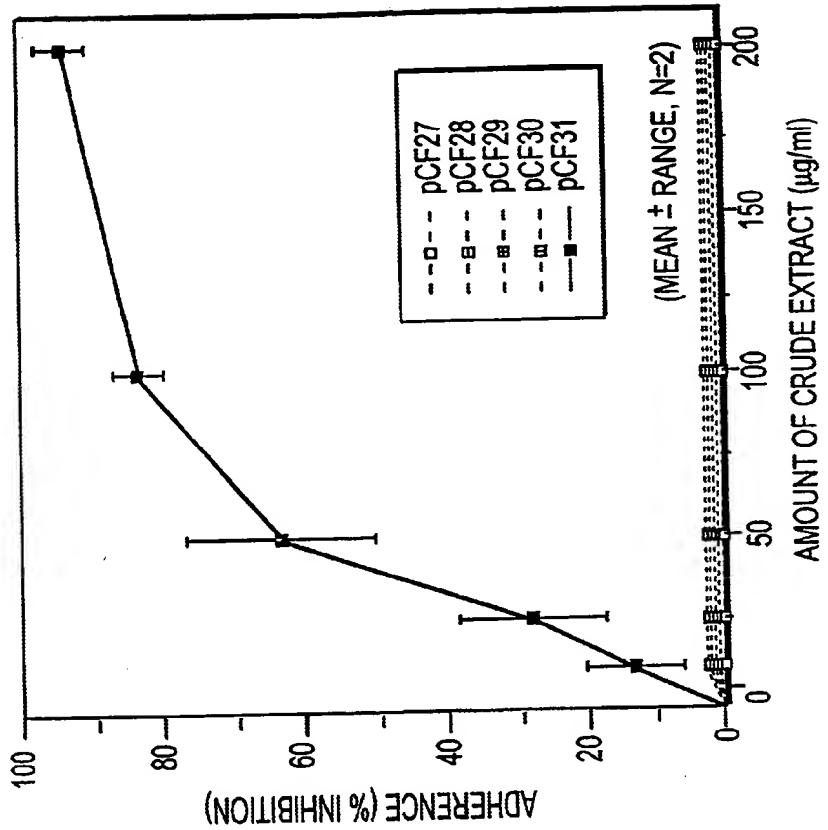


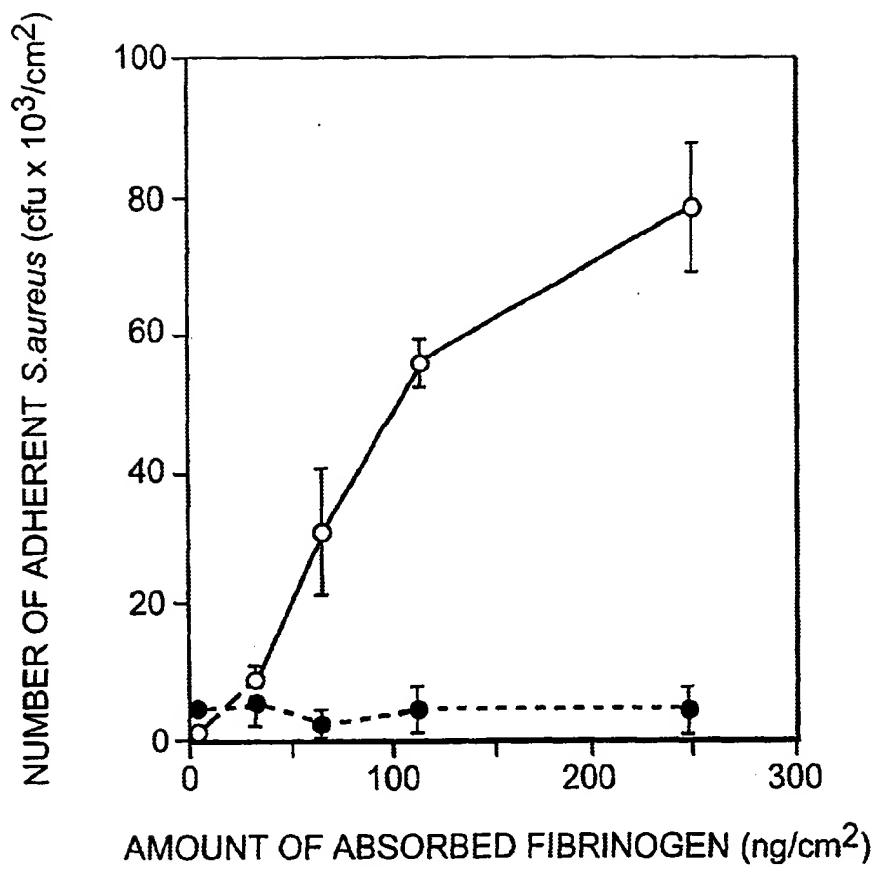
FIG. 5



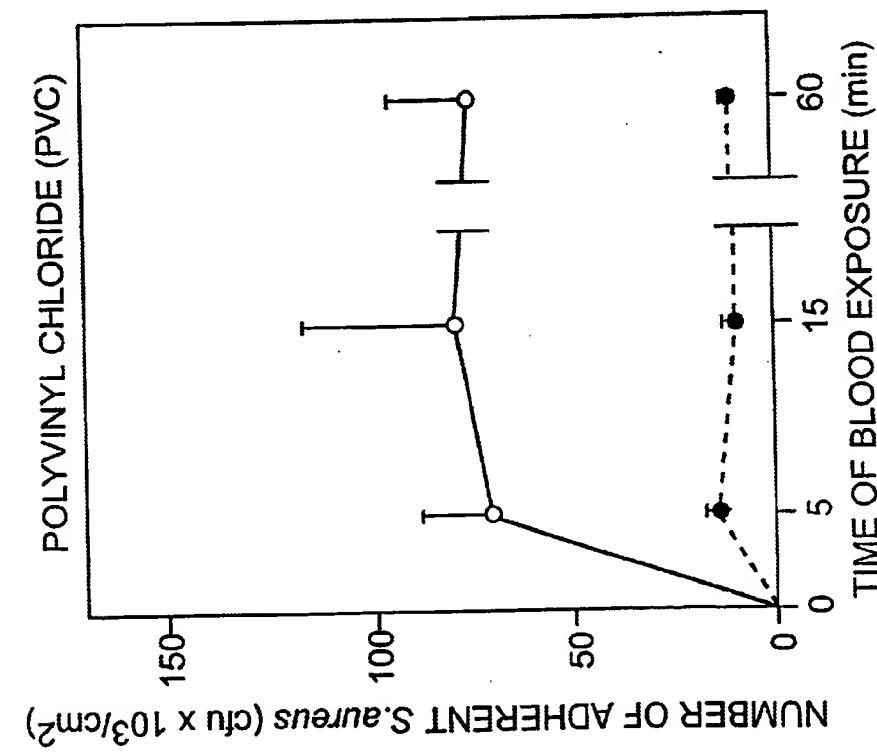
**FIG. 6A**



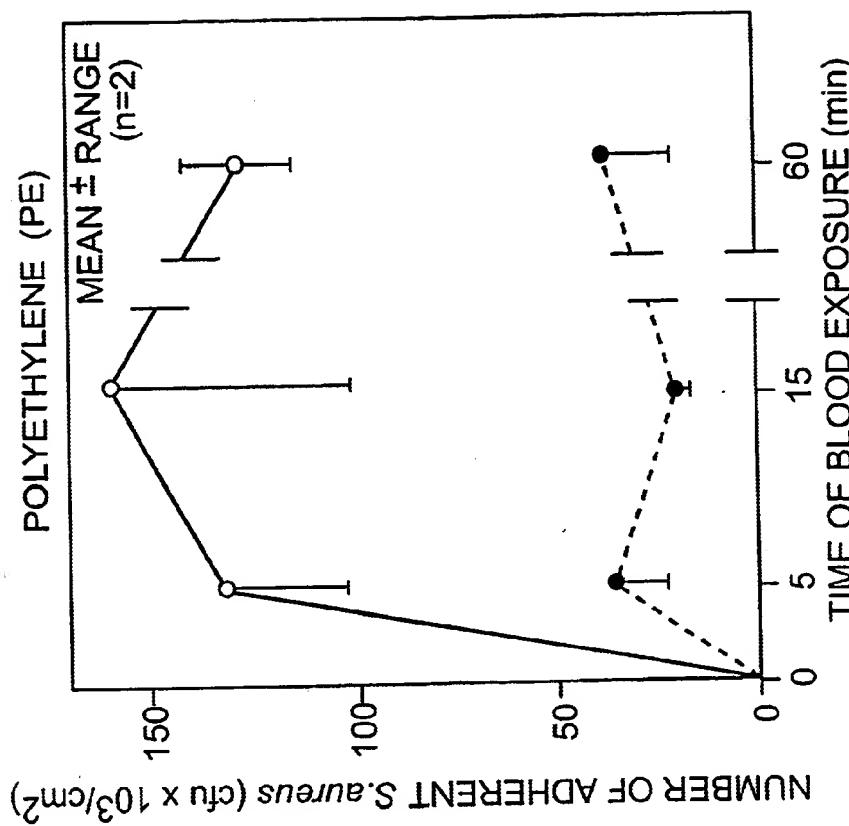
**FIG. 6B**



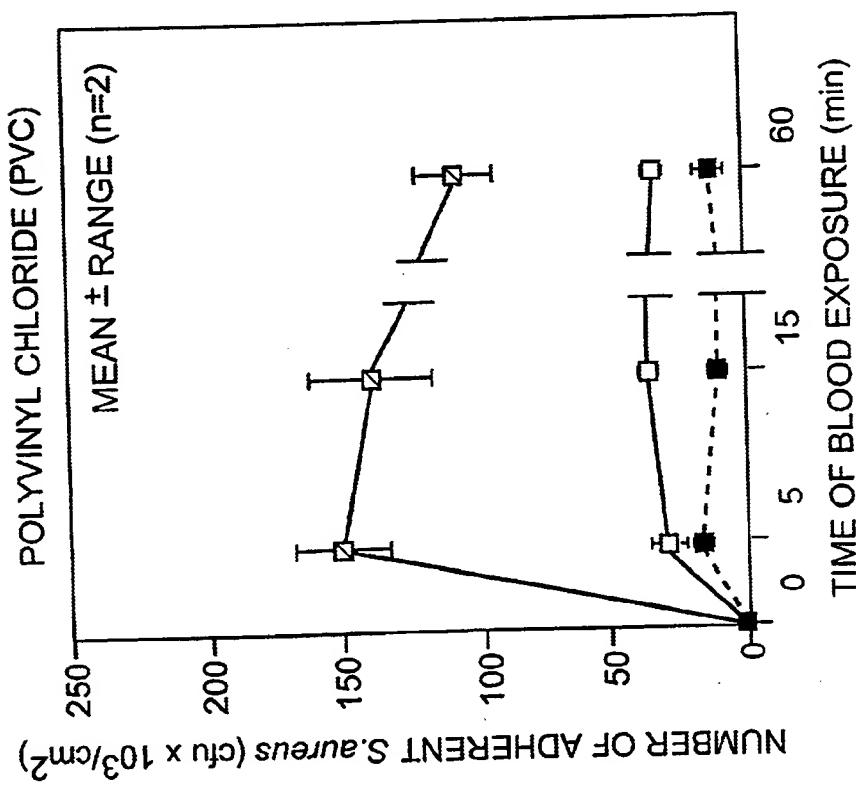
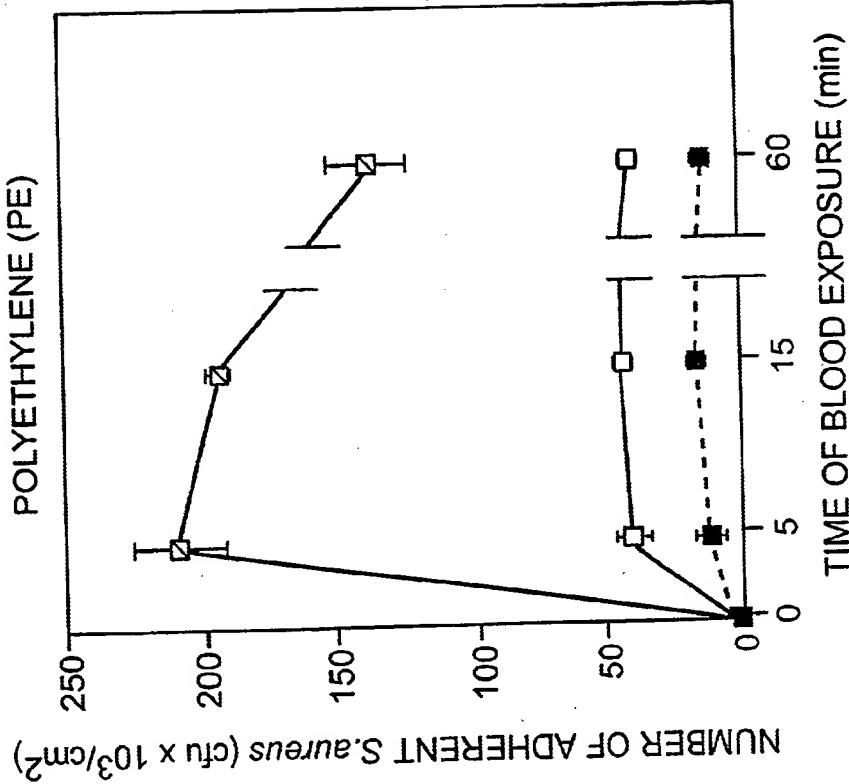
**FIG. 7**



**FIG. 8A**



**FIG. 8B**

**FIG. 9A****FIG. 9B**